

**Appendix 3: Characteristics of included studies of school-based physical-activity interventions (part 1 of 2)**

| Reference  | Population  | Duration,<br>mo | Intervention   | Co-intervention  |
|--|---|-----------------|--|--|
| <b>Cluster randomized controlled trials</b>                        |   |                 |  |  |
| School as unit of randomization                                    |   |                 |  |  |
| Burke et al. <sup>34</sup>   | Grade 5, Australia (n = 471)  | 8               | Progressive 20 min fitness session, 4 times/wk   | • Nutritional education  |
| Chavarro et al. <sup>35</sup>                                      | Grades 6 and 7, United States, girls (n = 508)                              | 19              | Increased moderate to vigorous physical activity, decreased inactive time during physical education      | • Physical activity goal-setting<br>• Nutrition education<br>• Education to reduce television viewing  |
| Hopper et al. <sup>30</sup>  | Grade 3, rural United States, white (n = 169)                               | 17              | 30 min session of physical activity (including aerobic activity for 20 min/class), 3 times/wk            | • Classroom nutrition education<br>• Family nutrition and activity education   |
| Lohman et al. <sup>45</sup>  | Grade 3, American Indian (n = 1367)   | 36              | Minimum 30 min moderate to vigorous physical activity, 3 times/wk  | • Classroom physical activity and nutrition education<br>• School food service reduced energy from fat to < 30%<br>• Family information packages                 |
| Luepker et al. <sup>31</sup>                                       | Grades 3–5, United States, white (n = 3959)                                 | 30              | Increase moderate to vigorous physical activity to 40% of physical education class                       | • School food service reduced fat, saturated fat and sodium in food<br>• Classroom nutrition and physical activity education<br>• Family education packages      |
| MacKelvie et al. <sup>43</sup>                                     | Grades 4–6, Canada, white and Chinese, girls (n = 75)                       | 20              | Progressive 10–12 min high-impact, weight-bearing exercise session, 3 times/wk                           | • None   |
| MacKelvie et al. <sup>44</sup>                                     | Grades 4–6, Canada, white and Chinese, boys (n = 64)                        | 20              | Progressive 10–12 min high-impact, weight-bearing exercise session, 3 times/wk                           | • None   |
| Neumark-Sztainer et al. <sup>37</sup>                              | Grades 9–12, United States, girls (n = 179)                                 | 8               | 4 physical activity sessions/wk, including 1 strength training session                                   | • Classroom physical activity and nutrition education<br>• Additional social support   |
| Pate et al. <sup>38</sup>  | Grades 8 and 9, United States, African American and white, girls (n = 1539) | 12              | Increase moderate to vigorous physical activity to > 50% of physical education class                     | • Health education<br>• School environmental changes to support physical activity  |
| Coleman et al. <sup>48</sup>                                       | Grade 3, El Paso, United States, primarily Hispanic (n = 896)               | 36              | Increase moderate to vigorous physical activity to 40% of physical education class                       | • School food service reduced fat, saturated fat and sodium in food<br>• Classroom nutrition and physical activity education<br>• Family education packages      |
| Sallis et al. <sup>47</sup>  | Grades 4 and 5, United States, primarily white (n = 740)                    | 18              | 30 min high-level physical activity, 3 times/wk  | • Self-management workshops to promote behaviour change  |
| School as unit of randomization, with cross-sectional measurements |   |                 |  |  |
| Webber et al. <sup>49</sup>  | Grades 6–8, United States, primarily white, girls (n = 3502)                | 24              | Increase moderate to vigorous physical activity to > 50% of physical education class led by school staff | • Classroom health education<br>• Goal-setting for behaviour change<br>• Increased opportunities, support and incentives for physical activity outside of school |

Continued

**Appendix 3:** Characteristics of included studies of school-based physical-activity interventions (part 2 of 2)

| Reference                                 | Population   | Duration, mo | Intervention   | Co-intervention  |
|---|--|--------------|--|--|
| <b>Randomized controlled trial*</b>       |  |              |  |  |
| Carrel et al. <sup>41</sup>               | Middle school, United States, obese children ( <i>n</i> = 50)                | 9            | Personalized curriculum with focus on increased active movement during 45 min physical education class, 5 times every 2 wk | <ul style="list-style-type: none"> <li>Classroom nutrition education</li> </ul>  |
| <b>Cluster controlled clinical trials</b> |  |              |  |  |
| School as unit of assignment              |  |              |  |  |
| Kain et al. <sup>42</sup>                 | Grades 4–8, Chile, low socio-economic status ( <i>n</i> = 3086)              | 6            | 90 min/wk additional physical activity   | <ul style="list-style-type: none"> <li>Classroom education about active lifestyles and nutrition</li> <li>School kiosks changed to sell healthy snacks</li> <li>Parental nutrition and activity education</li> </ul> |
| Linden et al. <sup>36</sup>               | Grades 1 and 2, Sweden, girls, middle class ( <i>n</i> = 99)                 | 24           | Physical activity 40 min/d, 5 times/wk   | <ul style="list-style-type: none"> <li>None</li> </ul>   |
| Donnelly et al. <sup>46</sup>             | Grades 3–5; rural Nebraska, United States; primarily white ( <i>n</i> = 108) | 24           | 30–40 min activity using large muscle groups, 3 d/wk   | <ul style="list-style-type: none"> <li>Nutrition education</li> <li>Modification to school food services to reduce energy, fat and sodium</li> </ul>   |
| Stock et al. <sup>40</sup>                | Kindergarten to grade 7, Canada, primarily white ( <i>n</i> = 316)           | 9            | 30 min vigorous aerobic fitness, 2 times/wk  | <ul style="list-style-type: none"> <li>Classroom nutritional, health, growth and development education</li> </ul>  |
| Class as unit of assignment               |  |              |  |  |
| Spiegel et al. <sup>39</sup>              | Grades 4 and 5, United States ( <i>n</i> = 1013)                             | 6            | 10 min moderate to vigorous physical aerobic activity daily  | <ul style="list-style-type: none"> <li>Classroom nutrition and physical activity education</li> </ul>  |

\*Individual student as the unit of randomization.